



# WEB TECHNOLOGIES

## JavaScript – Built-in Objects

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# JavaScript – Built-in Objects

## Global Objects supported

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- Number
- String
- Array
- Date
- Math
- window
- document

- Properties
  - MAX\_VALUE
  - MIN\_VALUE
  - NaN
  - POSITIVE\_INFINITY
  - NEGATIVE\_INFINITY
- Operations resulting in errors return NaN
  - Use isNaN(a) to test if a is NaN
- toString method converts a number to string

# JavaScript – Built-in Objects

## String Object

Method	Description
<code>charAt( index )</code>	Returns a string containing the character at the specified <i>index</i> . If there is no character at the <i>index</i> , <code>charAt</code> returns an empty string. The first character is located at <i>index</i> 0.
<code>charCodeAt( index )</code>	Returns the Unicode value of the character at the specified <i>index</i> . If there is no character at the <i>index</i> , <code>charCodeAt</code> returns NaN (Not a Number).
<code>concat( string )</code>	Concatenates its argument to the end of the string that invokes the method. The string invoking this method is not modified; instead a new String is returned. This method is the same as adding two strings with the string concatenation operator + (e.g., <code>s1.concat( s2 )</code> is the same as <code>s1 + s2</code> ).
<code>fromCharCode( value1, value2, )</code>	Converts a list of Unicode values into a string containing the corresponding characters.
<code>indexOf( substring, index )</code>	Searches for the first occurrence of <i>substring</i> starting from position <i>index</i> in the string that invokes the method. The method returns the starting index of <i>substring</i> in the source string or <code>-1</code> if <i>substring</i> is not found. If the <i>index</i> argument is not provided, the method begins searching from index 0 in the source string.
<code>lastIndexOf( substring, index )</code>	Searches for the last occurrence of <i>substring</i> starting from position <i>index</i> and searching toward the beginning of the string that invokes the method. The method returns the starting index of <i>substring</i> in the source string or <code>-1</code> if <i>substring</i> is not found. If the <i>index</i> argument is not provided, the method begins searching from the end of the source string.

# JavaScript – Built-in Objects

## String Object

Method	Description
<code>slice( <i>start</i>, <i>end</i> )</code>	Returns a string containing the portion of the string from index <i>start</i> through index <i>end</i> . If the <i>end</i> index is not specified, the method returns a string from the <i>start</i> index to the end of the source string. A negative <i>end</i> index specifies an offset from the end of the string starting from a position one past the end of the last character (so <code>-1</code> indicates the last character position in the string).
<code>split( <i>string</i> )</code>	Splits the source string into an array of strings (tokens) where its <i>string</i> argument specifies the delimiter (i.e., the characters that indicate the end of each token in the source string).
<code>substr ( <i>start</i>, <i>length</i> )</code>	Returns a string containing <i>length</i> characters starting from index <i>start</i> in the source string. If <i>length</i> is not specified, a string containing characters from <i>start</i> to the end of the source string is returned.
<code>substring( <i>start</i>, <i>end</i> )</code>	Returns a string containing the characters from index <i>start</i> up to but not including index <i>end</i> in the source string.
<code>toLowerCase()</code>	Returns a string in which all uppercase letters are converted to lowercase letters. Non-letter characters are not changed.
<code>toUpperCase()</code>	Returns a string in which all lowercase letters are converted to uppercase letters. Non-letter characters are not changed.
<code>toString()</code>	Returns the same string as the source string.
<code>valueOf()</code>	Returns the same string as the source string.

# JavaScript – Built-in Objects

## Array Methods

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Method	Description
push	Add to the end of array
pop	Remove from the end of array
shift	Remove from the front of array
unshift	Add to the front of array
join	return a string with array elements
indexOf	return the index of array
sort	sort an array in ascending order by default
concat	concatenate two arrays
slice	returns a subset if of the array

- `arr.sort([compareFunction])`
- If `compareFunction` is not specified, array is sorted as strings in ascending order
- `Arr = [1, 2, 11, 12, 22]`
- `Console.log(arr.sort())`
- `// 1, 11, 12, 2, 22`
- `compareFunction` takes two parameters say `a` and `b` and returns
  - 1 if `a > b`
  - 0 if `a = b`
  - -1 if `a < b`
- To reverse the order modify the condition for returning 1, 0 and -1

```
var numbers = [4, 2, 5, 1, 3];  
numbers.sort(function(a, b) { return b  
- a; });  
console.log(numbers);  
// [5,4,3,2,1]
```

Method	Description
toLocaleString	A string of the Date information
(get/set)Date	The day of the month
(get/set)Month	The month in the range of 0 to 11
(get/set)Day	The day of the week in the range of 0 to 6
(get/set)FullYear	The year
(get/set)Time	The number of milliseconds since January 1, 1970
(get/set)Hours	The number of the hour in the range of 0 to 23
(get/set)Minutes	The number of the minute in the range of 0 to 59
(get/set)Seconds	The number of the second in the range of 0 to 59
(get/set)Milliseconds	The number of the millisecond in the range of 0 to 999



Provides **static** mathematical constants and functions

Constant /Method	Description
Math.E	Euler's Constant (Approx. 2.718)
Math.PI	Value of PI (Approx. 3.1416)
Math.SQRT2	Square root of 2 (Approx. 1.414)
Math.abs(x)	Returns the absolute value of x
Math.ceil(x)	Returns the smallest integer greater than or equal to x
Math.floor(x)	Returns the largest integer less than or equal to x.
Math.max([x[, y[, ...]]])	Returns the largest of zero or more numbers.
Math.min([x[, y[, ...]]])	Returns the smallest of zero or more numbers.
Math.pow(x, y)	Returns base x to the exponent power y (that is, $x^y$ ).
Math.random()	Returns a random number between 0 and 1

- Global object containing global variables and functions declared in the page. For example, `var x;` can also be accessed as `window.x`

Properties /Method	Description
location	object containing location details like href, path etc.
history	object containing the browser history
localStorage	object containing a local cache for storing user info
innerHeight, innerWidth	dimensions of the display area of the browser
alert(text)	method to display a dialog box with message
prompt(text,default)	method to seek input from user, returns string
confirm(text)	method to show a confirmation dialog
setInterval, clearInterval	start/stop performing action repeatedly after an interval
setTimeout, clearTimeout	start/stop performing action once after a timeout period



**THANK YOU**

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